Ownership matrix

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1.0 PURPOSE AND SCOPE

This standard establishes requirements to ensure proper selection, inspection, and use of portable and fixed ladders. This standard does not apply to access ladders constructed as a component part of scaffolding.

This standard applies at all CH2M HILL Hanford Group, Inc. (CH2M HILL) managed facilities.

2.0 IMPLEMENTATION

This standard is effective on the date shown in the header.

3.0 STANDARD

1. Managers and supervisors will ensure ladders used for site activities meet the following requirements: (5.1.1, 5.1.2, 5.1.3, 5.1.5)

   a. Designed and constructed to meet the applicable standards for ladders.

   b. Rated for heavy-duty or extra-heavy-duty use (Type I, Type IA, or Type 1AA).

2. Managers and supervisors ensure employees comply with this document and use ladders in compliance with Attachment A and Attachment E. (5.1.1, 5.1.2, 5.1.3, 5.1.5)

3. Managers and supervisors ensure a competent person inspects ladders for visible defects on a periodic basis and after any occurrence that could affect their safe use. Frequency of scheduled periodic inspections is not to exceed twelve months, and is determined by factors such as:

   - Type and rate of use
   - Complexity of the work activity
   - Associated hazards.

   If a portable ladder is stored in an inaccessible area or hazards exist (e.g., high radiation, contamination), a special entry is not required just to perform the annual inspection. In such a case, the ladder will be inspected by a competent person prior to use or when it becomes accessible, whichever is sooner.

   Subcontractors may designate their own competent persons for ladder inspections.

4. The competent persons performing periodic inspections for portable ladders will place a dated (expiration date) and signed sticker on the inspected ladders. The sticker will be placed on the ladder at the time of inspection. Subcontractors may use the CH2M HILL sticker or their own sticker as long as the information is essentially the same. (Inspection criteria is contained in Attachment C.)

   NOTE: Step stools (32″ or less) do not require the annual competent person inspection but do require a pre-use inspection.

Deleted: <#>Subcontractors may designate their own competent persons for ladder inspections.¶
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Deleted: See Attachment B for an example of the sticker.

5. Fixed ladders will be inspected by a competent person at a frequency dependent on their accessibility and use. (Inspection criteria is contained in Attachment D.)

   - If a fixed ladder is in an inaccessible area, it will be inspected prior to use or minimally once per year if it becomes accessible.
   - If a fixed ladder is in an accessible area but is used less than once per year, it will be inspected prior to use.
   - If a fixed ladder is accessible and used routinely, it will be inspected at a minimum of once per year.

6. Fixed ladder inspections will be tracked by each project or facility.

7. If a fixed ladder is found to be defective it will be placed out of service by:

   - Immediately tagging it with a Do Not Use sign
   - Marked in a manner that identifies it as defective
     Or
   - Blocked (such as with a plywood attachment that spans several rungs).

8. Managers and supervisors ensure employees who use ladders are trained in the following areas: (5.1.1, 5.1.5)

   TFC Ladder Safety – Computer-Based Training (CBT) course #350809 (or equivalent) fulfills the training requirement.

   - Proper method of conducting a pre-use inspection
   - Selecting the proper ladder for the task assigned
   - Recognition of hazards related to ladder use
   - Fall hazards associated with ladder use
   - Correct procedures for fall protection systems
   - Proper construction, use, placement, and care in handling of portable ladders and the maximum intended load-carrying capacities of ladders used.

9. Personnel will perform a pre-use inspection on all ladders prior to each use. If structural defects are found, mark the ladder as defective and take it out of service to be safely destroyed (or repaired in the case of fixed ladders). Workers should not use ladders that have exceeded the 12 month inspection date that is indicated on the inspection sticker. (5.1.1, 5.1.2, 5.1.3, 5.1.5, 5.1.6)

   NOTE: Alternate methods of gaining access to the work should be evaluated. Examples, such as scaffolding, work platforms, roll-around ladders, should be evaluated and substituted for ladder use whenever practical. Workers should conduct an appropriate evaluation of alternative method/equipment prior to use.

10. Managers should reinforce ladder safe work practices (use Attachment A or Attachment E), as needed (e.g., pre-job briefings, safety meetings, etc.).

4.0 DEFINITIONS

Competent person. One who is capable of identifying existing and predictable hazards to ladders which could be injurious to employees, and who has authorization to take prompt corrective measures to eliminate them.

Extension ladder. A self-supporting portable ladder that is adjustable in length. An extension ladder consists of a trestle ladder base and has a vertically adjustable extension section, with a suitable means for locking the ladders together.

Fixed Ladder. A fixed ladder is a ladder permanently attached to a structure, building, or equipment.

Periodic Inspection. An inspection determined by use and environmental conditions, and performed by a competent person on a not-to-exceed twelve-month basis.

Single ladder. A non-self-supporting portable ladder, non-adjustable in length and consisting of one section. Its size is designed by overall length of the side rail.

Stepladder. A self-supporting portable ladder, non-adjustable in length, and having flat steps and a hinged back.

Step stool (ladder type). A self-supporting, foldable, portable ladder, nonadjustable in length, 32 inches or less in overall size, with flat steps and without a pail shelf, designed to be climbed on the ladder top cap as well as all steps. The side rails may continue above the top cap.

5.0 SOURCES

5.1 REQUIREMENTS

1. 10 CFR 851, “Worker Safety and Health Program.”
2. 29 CFR 1910.25, “Portable Wood Ladders.” (SRID)
3. 29 CFR 1910.26, “Portable Metal Ladders.” (SRID)
4. 29 CFR 1910.27, “Fixed Ladders.”
5. 29 CFR 1926, Subpart X, “Stairways and Ladders.” (SRID)
6. 29 CFR 1926, Subpart T, “Demolition,” 1926.851 - Stairs, Passageways, and Ladders.”

5.2 REFERENCES

1. ANSI A14.1, “Portable Wood Ladders.”
2. ANSI A14.2, “Portable Metal Ladders.”
3. ANSI 14.3, Safety Code for Fixed ladders. Section 6.5 Ladder Safety Devices.”
4. ANSI A14.4, “Job-Made Ladders.”
5. ANSI A14.5, “Portable Reinforced Plastic Ladders.”

ATTACHMENT A – LADDER USAGE

1. Employees are required and responsible to observe the following safety precautions while using ladders:

   - **Do not** attempt to support a portable ladder on boxes, barrels, or similar makeshift devices, or fasten/tie two or more ladders together to achieve greater working heights.
   - **Do not** shift, reposition, or extend portable ladders when the ladder is occupied.
   - **Do** use ladders with non-conductive side rails where an employee or a ladder could contact exposed energized parts.
   - **Do** avoid over-reaching beyond the side rails or exerting excess weight/force on the portable ladder steps/rungs.
   - **Do** use portable ladders within their established load carrying capacity classification, taking into consideration the stress which may be exerted while performing the task.
   - **Do** use portable ladders only for the purpose for which they are designed.
   - **Do** place the supporting legs of portable ladders on a substantial and level base and ensure the base section has secure footing.
   - **Do** use a portable ladder of sufficient length to avoid having to stand on the top two steps of a stepladder or top four rungs of a non self-supporting ladder.
   - **Do** set up portable ladders away from unlocked or unguarded doors that may open toward the ladder, and away from moving vehicles/equipment.
   - **Do** maintain the base and top landing (as applicable) around all portable ladders in a clear and unobstructed manner.
   - **Do** use stepladders in the fully open position with the locking devices (braces) set, and using the steps provided.
   - **Do** ensure that shoes, hands, gloves, and the portable ladder steps/rungs are free of oil, grease, mud, or other substances that may pose a slipping hazard.
   - **Do** ensure rungs or steps are slip resistant by design, are coated with skid-resistant material, or treated to minimize slipping.
   - **Do** face the portable ladder while ascending or descending, using both hands to grip the side rails.
   - **Do** check that inspection stickers are less than 12 months old and legible

ATTACHMENT A – LADDER USAGE (cont.)

- When working from a ladder, ensure that both the top and bottom of the ladder are secure to prevent the ladder from slipping from side to side.

  NOTE: Securing the ladder at the bottom can consist of ensuring the feet are stable and will not slip by means of rubber feet, spikes, or cleats nailed to the floor surface. Securing the ladder at the top can consist of tying the ladder to prevent the ladder slipping side to side.

- **Do** support both rails at the top, unless the ladder has a single support attachment.

- **Do** maintain stability and prevent overload by positioning only one person at a time on portable ladder steps/rungs.

- **Do** position single and extension portable ladders as follows:

  – With the weight equally distributed between the two side rails

  – At a pitch so that the horizontal distance from the top support to the foot of the ladder will be approximately one-fourth the vertical distance between these points

  – To prevent slipping or accidental displacement of the unit

  – Against structures or equipment determined to be stable and rigid enough to provide the necessary support.

2. Non self-supporting portable ladders being used for temporary access must extend a minimum of three feet past the intended landing, unless a secured grasping device (e.g., grab rail) is provided.

3. When preparing a portable extension ladder for use, ensure that the upper section overlaps the bottom section as follows and the locking clips (stops) are securely in place.

Length of Ladder	Overlap
Up to and including 36 feet	3 feet
Over 36 feet up to and including 48 feet	4 feet
Over 48 feet up to 60 feet	5 feet

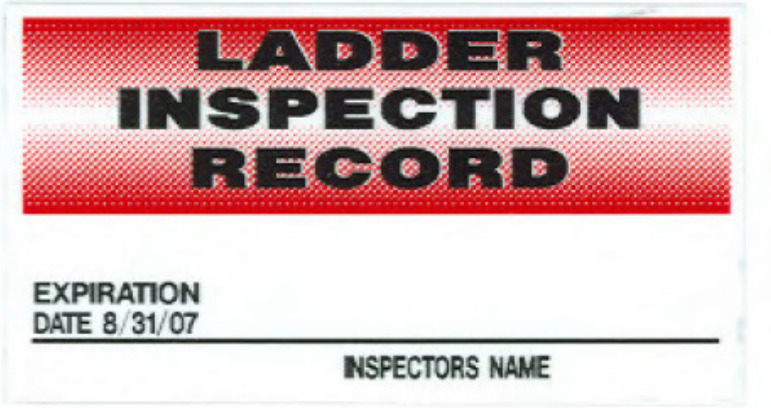
ATTACHMENT A – LADDER USAGE (cont.)

4. Store and transport portable ladders in a manner that provides stability, prevents damage, and permits easy access for inspection and safe withdrawal for use. Store portable ladders on racks designed to protect them when not in use. Make sure material isn't put on ladders in storage. The racks must have enough supporting points to prevent any possibility of excessive sagging. Support your ladder while transporting on a vehicle. Make sure ladders transported in a truck rack are positively secured in a fixed position that prevents chafing or abrasion.

   NOTE: Securing the ladder to each support point will greatly reduce damage due to road shock.

5. No work shall be performed on a ladder over twenty five feet from the floor that requires the use of both hands to perform the work, eye protection (except safety glasses), respirators, and/or pressure equipment.

ATTACHMENT B – PERIODIC LADDER INSPECTION STICKER



ATTACHMENT C – PORTABLE LADDER INSPECTION CHECKLIST
(1910.25 AND 1910.26)

Portable Ladders will be inspected for:

	Sat	Unsat	Comments	Date
Inspect rails for tightness, and condition.				
Inspect all hardware, fittings, and moveable parts for free movement.				
Inspect safety feet and auxiliary devices for proper function and condition.				
Lubricate metal bearings, locks, wheels, and pulleys.				
Ropes are in good condition.				
Rungs are clean and free from all grease and oil and covered with non slip material.				
Ladders are free of splinters and sharp edges.				
Storage: -Wooden ladders stored out of the elements. -All ladders stored horizontally. -All ladders stored for easy access. (for use and maintenance) -All ladders stored on vehicles carried on appropriate storage racks.				
Remove all defective, broken or ladders exposed to corrosive material from use for repair or destruction. Label all defective ladders, "Dangerous Do Not Use."				

ATTACHMENT D – FIXED LADDER INSPECTION CHECKLIST

Fixed Ladders will be inspected for:

	Sat	Unsat	Comments
Loose, worn and damaged rungs or side rails.			
A damaged or corroded cage.			
Corroded guards, bolts or rivet heads.			
Damaged or corroded handrails and brackets on platforms.			
Broken or loose anchorages.			
Weakened or damaged rungs on brick or concrete slabs.			
Defects in climbing devices, including loose or damaged carrier rails or ropes.			
Slippery surfaces from oil or ice.			
Clutter obstructing the base of the ladder or the platform.			

Date of Inspection _____

Inspected By:_____

ATTACHMENT E – FIXED LADDERS

(5.1.4)

1. Ladders shall be capable of supporting, without failure, at least two loads of 250 pounds (114 kg) each, concentrated between any two consecutive attachments (the number and position of additional concentrated loads of 250 pounds (114 kg) each, determined from anticipated usage of the ladder, shall also be included), plus anticipated loads caused by ice buildup, winds, rigging, and impact loads resulting from the use of ladder safety devices. Each step or rung shall be capable of supporting a single concentrated load of at least 250 pounds (114 kg) applied in the middle of the step or rung.

2. All rungs shall have a minimum diameter of three-fourths inch for metal ladders.

3. Ladder rungs, cleats, and steps shall be parallel, level, and uniformly spaced when the ladder is in position for use. The distance between rungs, cleats, and steps shall not exceed 12 inches and shall be uniform throughout the length of the ladder.

4. The minimum clear length of rungs or cleats shall be 16 inches.

5. Rungs, cleats, and steps shall be free of splinters, sharp edges, burrs, or projections which may be a hazard.

6. The rungs of an individual-rung ladder shall be so designed that the foot cannot slide off the end.

7. Side rails which might be used as a climbing aid shall be of such cross sections as to afford adequate gripping surface without sharp edges, splinters, or burrs.

8. All splices made by whatever means shall meet design requirements as noted in 29 CFR 1910.27. All splices and connections shall have smooth transition with original members and with no sharp or extensive projections.

9. Ladders without cages or wells shall have a clear width of at least 15 inches provided each way from the centerline of the ladder in the climbing space, except when cages or wells are necessary.

10. The distance from the centerline of the grab bar to the nearest permanent object in back of the grab bars shall be not less than 4 inches. Grab bars shall not protrude on the climbing side beyond the rungs of the ladder which they serve.

11. Cages or wells shall be provided on ladders of more than 20 feet to a maximum unbroken length of 30 feet. Cages shall extend a minimum of 42 inches above the top of landing, unless other acceptable protection is provided.

ATTACHMENT E - FIXED LADDERS (cont.)

12. When ladders are used to ascend to heights exceeding 20 feet, landing platforms shall be provided for each 30 feet of height or fraction thereof, except that, where no cage, well, or ladder safety device is provided, landing platforms shall be provided for each 20 feet of height or fraction thereof. Each ladder section shall be offset from adjacent sections. Where installation conditions (even for a short, unbroken length) require that adjacent sections be offset, landing platforms shall be provided at each offset.

    Where a man has to step a distance greater than 12 inches from the centerline of the rung of a ladder to the nearest edge of structure or equipment, a landing platform shall be provided. The minimum step-across distance shall be 2 1/2 inches.

13. All landing platforms shall be equipped with standard railings and toeboards, so arranged as to give safe access to the ladder. Platforms shall not be less than 24 inches in width and 30 inches in length.

14. The side rails of through or side-step ladder extensions shall extend 3 1/2 feet above parapets and landings. For through ladder extensions, the rungs shall be omitted from the extension and shall have not less than 18 nor more than 24 inches clearance between rails. For side-step or offset fixed ladder sections, at landings, the side rails and rungs shall be carried to the next regular rung beyond or above the 3 1/2 feet minimum.

15. Grab bars shall be spaced by a continuation of the rung spacing when they are located in the horizontal position. Vertical grab bars shall have the same spacing as the ladder side rails. Grab-bar diameters shall be the equivalent of the round-rung diameters.

16. All ladders shall be maintained in a safe condition. All ladders shall be inspected regularly, with the intervals between inspections being determined by use and exposure.